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(57) Abstract

Objects of the InventionPrevent the back run of the undesired signal by reflection of BPF in a member terminating set.

Elements of the InventionA signal from the hub 2 is separated spectrally into control data and a broadcasting signal with the composition / branching filter 30 in the member terminating set 3. After a broadcasting signal is amplified with the amplifier 31, it is distributed by the distributor 32 four times and supplied to BPF 33-36 via the isolators 42-45, respectively. In each BPF, only a frequency component of each channel of BS-1, and 5, 9 and 13 passes, it is compounded with control data with composition / branching filters 37-40, respectively, and each CATV terminal devices 4-7 are supplied. On the other hand, although frequency components other than a pass band are reflected with an input terminal of each BPF, it is absorbed with each isolator and a back run to said distributor 32 is prevented.

Claim(s)

Claim 1A member terminating set which arranges a back run checking means which prevents a back run of a signal component reflected between said distributor and said two or more BPF(s) in a member terminating set in an input edge of said BPF characterized by comprising the following, respectively.

A distributor which receives a broadcasting signal of two or more channels by which frequency conversion was carried out to two or more frequency which frequency multiplexing is carried out and is transmitted from a CATV broadcast office, and which was chosen by member among CATV broadcast signals of a channel, and was decided beforehand, respectively, and distributes

this broadcasting signal to plurality. **much**

Two or more BPF(s) which pass only one signal component in said two or more frequency from an output of this distributor, respectively.

Claim 2The member terminating set according to claim 1 which is an isolator with which a first half back run checking means absorbs a signal component of frequency other than a pass band of each of said BPF.

Claim 3The member terminating set according to claim 1 which is the amplifier with which a first half back run checking means has an isolation function.

Detailed Description of the Invention

0001

Industrial ApplicationThis invention relates to the member terminating set in a two-way communication CATV system.

0002

Description of the Prior ArtAs one of the two-way communication CATV systems, there is a method called a demand access method (refer to 1989 Institute of Electronics, Information and Communication Engineers report-of-research OCS-51 **the 7th page - page / 12th** "FM multiplex Hi-Vision optical CATV system by a demand access method").

0003Drawing 3 is a schematic block diagram of the two-way communication CATV system by this demand access method, After modulating the sending-out block 11 which one is a CATV broadcast office among a figure, and sends out a free retransmission-of-message program and a charged independence program, and the television signal of two or more channels (40 channels) from this sending-out block by a different subcarrier, It has the transmission equipment 14 which transmits and receives the control data about the head end 12 which carries out multiplex and is sent out as a broadcasting signal, the interactive-services management block 13 which manages interactive services, and these interactive services.

00042 is a hub arranged as repeating installation between this transmission equipment 14 and the CATV terminal device mentioned later, Based on the channel selection data from a member, four arbitrary channels are chosen among the independence programs of 40 channels. The channel selection data from the CATV terminal device of 21 or 4 channel selection circuits which carry out frequency conversion to the specific channel of the BS (satellite broadcasting) channels decided beforehand, respectively is received. While compounding the interactive-services treating part 22 which controls said channel selection circuit or transmits the control data about interactive services to each CATV terminal device, and the broadcasting signal from said channel selection circuit and the control data which is transmitted to a CATV terminal device and getting down. It consists of the retransmission-of-message relay part 24 which relays the composition / branching filter 23 which separates spectrally the control data of going up from a CATV terminal device, and is supplied to the interactive-services treating part 22, and the retransmission-of-message program from said head end 12. Said channel selection circuit 21, the interactive-services treating part 22, and two or more sets of composition/branching filters 23 were arranged in parallel, and each class has managed four CATV terminal devices, respectively.

00053 and 3 ... is a member terminating set which performs composition and distribution of control data while supplying the broadcasting signal about the retransmission-of-message program from said hub 2, and the broadcasting signal of four specific channels to four CATV terminal devices, respectively.

0006It is a CATV terminal device which receives one arbitrary channel from the inside of 40 channels by installing 4, 5, 6, and 7 in each member's home, and transmitting the channel selection data from a member to the hub 2, Frequency conversion of the broadcasting signal of the channel which the member chose is carried out to one channel in said specific channel, and it is transmitted to each CATV terminal device.

0007Next, the concrete composition of the member terminating set 3 is explained according to drawing 6. The signal from the hub 2 is first separated spectrally into the broadcasting signal and control data for four channels with composition / branching filter 30. After a broadcasting signal is amplified to a predetermined level with the amplifier 31, it is distributed to four by the distributor 32 and supplied to BPF 33-36 which chooses each channel component of BS-1, BS-5, BS-9, and BS-13, respectively.

0008On the other hand, the control data separated spectrally with said composition / branching

filter 31 is distributed to four by composition / distributor 41, is compounded with composition / branching filters 37-40 with said 33 to BPF36 output, respectively, and is supplied to each CATV terminal device. After being separated spectrally with composition / branching filters 37-40, each control data from each CATV terminal device is compounded with said composition / distributor 41, and also is supplied to said hub 2 through composition / branching filter 31. After the broadcasting signal concerning the retransmission-of-message program from the hub 2 is distributed by the distributor 42 four times, it is supplied to each composition / branching filters 37-40.

0009Therefore, the broadcasting signal supplied to each CATV terminal device becomes a retransmission-of-message program and specific 1 out of four BS.

0010

Problem(s) to be Solved by the InventionIn an above-mentioned member terminating set, BPF 33-36 passes only specific frequency, respectively, and it has the characteristic of reflecting the undesired signal of the other frequency. For this reason, the undesired signal reflected by BPF of a certain channel flowed backwards to the distributor 32, it mixed in other channel courses, and there was a fault that interference of phase ***** etc. occurred between original signals.

0011This invention solves the above-mentioned fault.

The purpose is to provide the member terminating set which prevented the undesired signal reflected by BPF flowing backwards and mixing to other channel courses.

0012

Means for Solving the ProblemA member terminating set this invention is characterized by that comprises the following and which has arranged a back run checking means which prevents a back run of a signal component reflected between said distributor and said two or more BPF(s) in an input edge of said BPF in a member terminating set, respectively. A distributor which receives a broadcasting signal of two or more channels by which frequency conversion was carried out to two or more frequency which frequency multiplexing is carried out and is transmitted from a CATV broadcast office, and which was chosen by member among CATV broadcast signals of a channel, and was decided beforehand, respectively, and distributes this broadcasting signal to plurality. **much**

Two or more BPF(s) which pass only one signal component in said two or more frequency from an output of this distributor, respectively.

0013

FunctionAs for the signal distributed with the distributor, by an above-mentioned means, the signal of specific frequency is passed by BPF, and an undesired signal is reflected. The reflected undesired signal is absorbed by an isolator and the back run to a distributor is prevented.

0014

ExampleHereafter, one example of this invention is described according to a drawing.

0015Drawing 1 gives identical codes to drawing 4 and identical parts which are the block diagrams of the member terminating set in this example, and omits explanation.

0016The feature of this example is that it has arranged the isolators 42-45 between the distributor 32 and BPF 33-36, respectively.

0017That is, the broadcasting signal distributed with the distributor 32 passes the isolators 42-45, respectively, and is supplied to BPF 33-36. At this time, each isolator is passed almost without attenuation from an input terminal to an output terminal. And most is absorbed by the isolation characteristic of an isolator, although the unnecessary component of the frequency intercepted with the input terminal of each BPF is reflected and it is inputted into the output terminal of each isolator. Therefore, the back run of the undesired signal from each isolator to the distributor 32 is hardly generated.

0018Next, drawing 2 shows other examples of this invention. In this example, the amplifier 46-49 is arranged between the distributor 32 and each BPF 33-36 instead of the isolator. In this example, amplifier is not arranged at the preceding paragraph of the distributor 32.

0019Said amplifier 46-49 has an isolation function.

The undesired signal reflected by BPF 33-36 by this is absorbed.

Therefore, the back run of the undesired signal from each amplifier to the distributor 32 is hardly generated.

0020According to this example, the back run of the undesired signal by reflection can be prevented by using an isolation function positively in addition to the amplifying function of

amplifier, without using an expensive isolator.

0021

Effect of the Invention Since it can prevent like **** that the undesired signal reflected by BPF flows backwards to a distributor, and mixes to other channel courses according to this invention, between original signals, interference of phase **** etc. does not occur but the member terminating set of the good characteristic can be realized.

0022 The back run of said undesired signal can be cheaply prevented by arranging the amplifier which has an isolation function between a distributor and each BPF.

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Brief Description of the Drawings

Drawing 1 It is a block diagram of the member terminating set in one example of this invention.

Drawing 2 It is a block diagram of the member terminating set in other examples of this invention.

Drawing 3 It is a block diagram of the conventional two way CATV system.

Drawing 4 It is a block diagram of the conventional member terminating set.

Description of Notations

- 1 CATV broadcast office
 - 2 Hub
 - 3 Terminating set
 - 4 - 7 CATV-terminal device
 - 32 Distributor
 - 33 - 36 BPF
 - 42-45 Isolator
 - 31 Amplifier
 - 46-49 Amplifier
-

Drawing 1

For drawings please refer to the original document.

Drawing 2

For drawings please refer to the original document.

Drawing 3

For drawings please refer to the original document.

Drawing 4

For drawings please refer to the original document.

For drawings please refer to the original document.
